

### **REMARKS**

The present application was originally filed with 18 Claims. In a Restriction Requirement mailed December 8, 2005, the Examiner restricted the Claims into 35 Groups, as indicated below:

- I. Group I contains Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 7 in the sequence of subtilisin BPN';
- II. Group II contains Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 23 in the sequence of subtilisin BPN';
- III. Group III contains Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 26 in the sequence of subtilisin BPN';
- IV. Group IV contains Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 28 in the sequence of subtilisin BPN';
- V. Group V contains Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 29 in the sequence of subtilisin BPN';
- VI. Group VI contains Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 30 in the sequence of subtilisin BPN';
- VII. Group VII contains Claims 1-12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 31 in the sequence of subtilisin BPN';
- VIII. Group VIII contains Claims 1-3, 5-12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 47 in the sequence of subtilisin BPN';
- IX. Group IX contains Claims 1-3, 6, 12-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 61 in the sequence of subtilisin BPN';

- X. Group X contains Claims 1-3, 5, 6, 9, 12-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 66 in the sequence of subtilisin BPN';
- XI. Group XI contains Claims 1-3, 6, 9-12, and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 69 in the sequence of subtilisin BPN';
- XII. Group XII contains Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 73 in the sequence of subtilisin BPN';
- XIII. Group XIII contains Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 82 in the sequence of subtilisin BPN';
- XIV. Group XIV contains Claims 1-9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 85 in the sequence of subtilisin BPN';
- XV. Group XV contains Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 88 in the sequence of subtilisin BPN';
- XVI. Group XVI contains Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 90 in the sequence of subtilisin BPN';
- XVII. Group XVII contains Claims 1-3, 5-9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 92 in the sequence of subtilisin BPN';
- XVIII. Group XVIII contains Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 93 in the sequence of subtilisin BPN';
- XIV. Group XIV contains Claims 1-3, 5-9, and 12-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 105 in the sequence of subtilisin BPN';
- XX. Group XX contains Claims 1-3, 5-9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 113 in the sequence of subtilisin BPN';

- XXI. Group XXI contains Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 139 in the sequence of subtilisin BPN';
- XXII. Group XXII contains Claims 1-12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 148 in the sequence of subtilisin BPN';
- XXIII. Group XXIII contains Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 149 in the sequence of subtilisin BPN';
- XXIV. Group XXIV contains Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 150 in the sequence of subtilisin BPN';
- XXV. Group XXV contains Claims 1-3, 5-9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 151 in the sequence of subtilisin BPN';
- XXVI. Group XXVI contains Claims 1-3, 6-9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 174 in the sequence of subtilisin BPN';
- XXVII. Group XXVII contains Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 178 in the sequence of subtilisin BPN';
- XXVIII. Group XXVIII contains Claims 1-3, 5-9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 200 in the sequence of subtilisin BPN';
- XXIX. Group XXIX contains Claims 1-3, 5-12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 201 in the sequence of subtilisin BPN';
- XXX. Group XXX contains Claims 1-3, 6, and 9-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 203 in the sequence of subtilisin BPN';
- XXXI. Group XXXI contains Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 231 in the sequence of subtilisin BPN';

- XXXII. Group XXXII contains Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 233 in the sequence of subtilisin BPN';
- XXXIII. Group XXXIII contains Claims 1-3, 6, and 9-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 258 in the sequence of subtilisin BPN';
- XXXIV. Group XXXIV contains Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 267 in the sequence of subtilisin BPN'; and
- XXXV. Group XXXII contains Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 273 in the sequence of subtilisin BPN'.

In a Response filed 23 December 2005, Applicant elected the Claims in Group III (Claims 1-6, 9, 12 and 15-18) without traverse.

The Examiner indicates that there were no copies of documents cited in the Information Disclosure Statement (IDS) and PTO-Form 1449 were submitted when the IDS and 1449 form were filed on 13 March 2006. However, the postcard (a copy of which is provided herewith) indicates that copies of 49 references were provided with these documents. Nonetheless, Applicants hereby re-submit copies of the references for consideration.

The Examiner has objected to Claim 10 as being a substantial duplicate of Claim 4. As Claim 10 is more clear in reciting the claimed subject matter than Claim 4, Applicant has cancelled Claim 4 without prejudice.

In addition, Claims 1-3 and 15-18 are provisionally rejected on the ground of non-statutory obviousness-type double-patenting rejection over Claims 1-8 and 18 of co-pending U.S. Pat. Appln. Ser. No. 10/498,714. As this is provisional rejection, a Terminal Disclaimer is not being provided herewith. However, upon notification of allowable Claims, Applicant will provide a Terminal Disclaimer.

Applicant appreciates the Examiner's withdrawal of previous rejections and the comments and suggestions regarding the allowability of certain Claims, if amended. The Examiner's rejections are addressed below, in the following order:

- 1) Claims 2, 3, 9, and 10 stand rejected under 35 U.S.C. §112, first paragraph, as allegedly not meeting the written description requirement;
- 2) Claims 2, 3, 9, and 10 stand rejected under 35 U.S.C. §112, first paragraph, as allegedly not being enabled;
- 3) Claims 1-3, 9 and 10, stand rejected under 35 U.S.C. §112, second paragraph as allegedly being indefinite;
- 4) Claims 1-4, 9, 10, and 15-18 stand rejected under 35 U.S.C. §102(e), as allegedly being anticipated by Estell *et al.* (US Pat. Appln. Pub. No. 2005/0148159); and
- 5) Claims 1-4, 9, 10, and 15-18 stand rejected under 35 U.S.C. §102(f), as allegedly being anticipated by Estell *et al.* (US Pat. Appln. Pub. No. 2005/0148159).

**1) The Written Description Requirement is Met**

The Examiner has rejected Claims 2, 3, 9, and 10 under 35 U.S.C. §112, first paragraph, as allegedly not meeting the written description requirement. Applicant appreciates the Examiner's suggestions. While Applicant must respectfully disagree, in order to further the prosecution of the present application and Applicant's business interests, yet without acquiescing to the Examiner's arguments, Applicant has amended Claims 2 and 3, and cancelled Claims 9 and 10, without prejudice. Applicant reserves the right to pursue the cancelled and/or additional Claims in one or more subsequently filed applications. Applicant respectfully submits that the pending Claims are fully supported by the Specification and that the written description requirement is met. Applicant respectfully requests that this rejection be withdrawn.

**2) The Claims are Enabled**

The Examiner has rejected Claims 2, 3, 9, and 10, under 35 U.S.C. §112, first paragraph, as allegedly not being enabled. Applicant appreciates the Examiner's suggestions and admission that the Specification is enabling for the preparation of modified GG36 subtilisins comprising amino acid substitutions of either V26S or V26T that have improved thermal stability as compared to unmodified GG36 subtilisin. As indicated above, while Applicant must respectfully disagree, in order to further the prosecution of the present application and Applicants' business interests, yet without acquiescing to the Examiner's arguments, Applicant has amended Claims 2 and 3, and cancelled Claims 9 and 10, without prejudice. Applicant reserves the right to pursue the cancelled and/or additional Claims in one or more subsequently filed applications. Applicant respectfully

submits that the pending Claims are fully enabled by the Specification and that the enablement requirement is met. Applicant respectfully requests that this rejection be withdrawn.

**3) The Claims are Definite**

The Examiner has rejected Claims 1-3, 9, and 10 under 35 U.S.C. §112, second paragraph as allegedly being indefinite. Applicant appreciates the Examiner's suggestions. As indicated above, while Applicant must respectfully disagree, in order to further the prosecution of the present application and Applicant's business interests, yet without acquiescing to the Examiner's arguments, Applicant has amended Claims 1-3, and cancelled Claims 9 and 10, without prejudice. Applicant reserves the right to pursue the cancelled and/or additional Claims in one or more subsequently filed applications. Applicant respectfully submits that the pending Claims are fully supported by the Specification and that the Claims are definite. Applicant respectfully requests that this rejection be withdrawn.

**4-5) The Claims are Novel**

The Examiner has rejected Claims 1-4, 9, 10, and 15-18 under 35 U.S.C. §102(e), as allegedly being anticipated by Estell *et al.*, (US Pat. Pub. No. 2005/0148159); and Claims 1-4, 9, 10, and 15-18 stand rejected under 35 U.S.C. §102(f), as allegedly being anticipated by Estell *et al.* (US Pat. Pub. No. 2005/0148159). Applicant must respectfully disagree, as Estell *et al.* teach a modified T-cell epitope comprising a substitution at position 26 of the *B. amyloliquefaciens* subtilisin sequence, including V26T and V26S. Estell *et al.* also teach lower allergenicity mutations at positions 76, 179, 122, 218, 206, 40, 41, and 238, including the N218S substitution. However, there is no explicit teaching of the combination of substitutions as currently claimed. Thus, the present invention is novel over the teaching of Estell *et al.* and Applicant respectfully requests that this rejection be withdrawn.

### **CONCLUSION**

As all of the grounds of the Examiner's rejections have been addressed and in view of the above remarks, the Applicant believes the pending Claims are in condition for allowance and issuance of a formal Notice of Allowance at an early date is respectfully requested. The Information Disclosure Statement requested by the Examiner will be filed shortly. If the Examiner has any questions regarding the present application he or she is encouraged to contact the undersigned.

Respectfully submitted,

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